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LEEK CULTURAL AND CULTIVAR TRIAL - 1996

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The leek trial was conducted on the OARDC Muck Crops Branch near Willard, Ohio. The cultivar trial consisted of 31 entries. The cultural study involved a greenhouse plug study and a field spacing trial.

Greenhouse Plug Study

This test consisted of five tray types and sizes. Two cultivars and three soilless mixes were involved in the tray study. The purpose was to look at the possibility of increasing the plant density within the greenhouse without reducing the transplant quality.

Field Spacing Study

This test consisted of two cultivars and three within row spacings. The purpose was to evaluate the effect of increasing plant density on the overall performance and quality of marketable leeks.

Cultural Information

Transplants were grown in a poly-greenhouse with temperatures set at 70°F days and 65°F nights for 10 weeks. For the cultivar and field spacing study, plants were raised in a Blackmore 288D tray using Metromix 360 as a growing media. All plants were fertilized on a continuous basis, once the first true leaf appeared, at the rate of 50 ppm of a Peters 20-10-20 solution. Plants were trimmed twice during the 10 weeks at a height of four inches.

The field planting soil was classed as a muck soil, 85% organic matter. Prior to transplanting, early April, 800 lb/A of 17-17-17 was broadcast and incorporated. Half way through the leek growing cycle an additional 30 units of nitrogen was sidedressed using ammonium nitrate (34%). Transplanting was done using a three-row Maile Holland transplanter, placing the plants four inches apart within rows and 20 inches between rows. Plots were 20 feet long. All studies involved between four and six replications. All other cultural practices during the growing season were according to standard recommendations. Weed control was excellent and no serious insect or disease problems developed during the season.

Growth conditions in 1996 were considered excellent for growing leeks. Humidity was low and temperatures mild. Irrigation was applied as needed.1996

Weather: Environmental factors

Willard	Rain long term		Air Temperature(avg)			Long term (avg)			Humidity (avg)		
	in	avg	min.	max.	avg	min	max	avg	min	max	avg
April	3.34	3.78	40.6	62.9	51.2	37.5	60.5	0	62.2	95.1	79.5
May	3.59	3.81	48	65.9	57.1	47	70.9	0	64.5	95.7	77.6
June	4.27	3.86	61.6	79.1	69.7	56.1	80	0	63.9	95	80.9
July	3.48	3.84	57.7	79.9	69.3	58.8	83.2	0	56.3	95.2	76.1
August	0.07	3.59	58	81.6	69.7	81.7	81.7	0	60	98.5	81.2
Sept	4.82	3.2	41.2	73.6	57.4	51.9	75.8	0	69.8	99.5	87.7
Oct	0.38	0	39.8	57.2	61.9	0	0	0	70.3	99.3	86.5

1996 - Muck Crops Branch

Cultivar	Source	Foliage Color	Total weight/ plant (g)	Trimmed wt. plant (g)	% Trim Loss (18")	Width/plant (mm)	Shank length/ plant (in)
Senora	Daehnfeldt	Blue-green	353	261	26	29.28	6.00
Prenora	Daehnfeldt	Blue-green	398	322	19	28.46	6.00
Winora	Daehnfeldt	Blue	316	269	15	29.26	4.00
Titan	Daehnfeldt	Green	409	310	24	32.10	6.70
Siegfried	Daehnfeldt	Blue-green	357	283	21	32.26	4.17
Leewik	Ferry-Morse	Blue	328	259	21	28.14	5.00
Leeglow	Ferry-Morse	Blue	333	269	19	30.13	4.33
Leefall	Ferry-Morse	Blue	429	359	16	34.02	5.00
Tadorna	Rispens	Blue	403	331	18	31.26	5.00
Verdea	Enza Zaden	Blue	422	349	17	32.75	5.00
Ardea	Enza Zaden	Blue	437	354	19	32.57	4.67
Sterna	Enza Zaden	Blue	429	353	18	33.50	4.67
Tadorna	Enza Zaden	Blue	389	324	17	31.23	5.00
Arena	Enza Zaden	Blue-green	366	321	12	31.64	4.83
Albinstar	Enza Zaden	Blue	435	359	18	33.04	5.50
Firena*	Enza Zaden	Blue	477	403	16	36.37	4.83
Startrack*	Enza Zaden	Blue	463	386	17	34.10	5.50
Florena*	Enza Zaden	Blue-green	454	380	16	34.34	6.50
Gavia	Enza Zaden	Blue	378	312	17	31.19	4.17
Sterna	Enza Zaden	Blue-green	431	347	19	33.93	5.00
Snowstar*	Enza Zaden	Blue-green	616	509	17	41.05	5.83
Primor	Vilmorin	Blue	445	360	19	33.86	5.67
Furor	Vilmorin	Blue-green	416	338	19	30.16	6.17
Pancho	Johnny's	Blue	436	359	18	35.72	7.17
Arkansas	Siegers	Blue	388	309	9	33.88	4.00
Jolant	Bejo	Blue	441	358	19	36.63	4.83
Lancelot*	Bejo	Blue	466	393	16	34.71	6.50
Ramona (B-1668)	Bejo	Blue	432	354	18	34.31	4.33
Pinola	Bejo	Blue	352	301	14	30.92	5.50
Carina	Rogers	Blue	408	319	22	34.69	4.50
Otina*	Rogers	Blue-green	518	414	20	34.52	5.67

Seeded: 3/22/96
Transplanted: 5/29/96
Harvested: 8/29/96
Plant spacing: 4" between plants, 20" between rows
*Considered best in trial.

Table 2. Effects of plug size on leek plant characteristics grown under greenhouse conditions.

Tray Size	Tray Color	Plant Ht. [1] (cm)	Fresh Wt./10 plants[2] roots (g)	Fresh Wt./10 plants[2] tops (g)	Dry Wt/10 plants[2] roots (mg)	Dry Wt/10 plants[2] tops (mg)
288D	Black	10.32	5.35	6.12	510	640
338D	Black	10.04	5.01	6.50	495	690
406D	Black	9.85	5.12	5.58	520	575
512D	Black	10.13	4.18	4.50	415	460
595	White	9.46	4.01	5.17	525	600
LSD		.29	.68	.51	73	44

Seeded: 3/22/96

[1]Plant height taken May 7, 1996

[2]Fresh and dry weight taken May 30,1996

Table 3. Effect of plug size on overall growth and development of leeks grown on muck soils.

Tray Size	Tray Color	Total wt/ plant (g)	Trimmed wt. Plant (g)	% trim loss (18")	Width/plant (mm)	Shank length/ plant (in)
288D	Black	488	379	22	36	5.25
338D	Black	528	409	22	37	5.63
406D	Black	523	410	22	37	5.00
512D	Black	456	355	22	34	5.17
595	White	445	348	22	35	4.80
LSD		78	67		2	.96

Seeded: 3/22/96

Transplanted: 5/30/96

Harvested: 8/30/96

Plant Spacing: 4" between plants, 20" between rows

Table 4. Effect of within row plant spacing on plant development of leeks grown on muck soils.

Spacing (in.)	Total weight/ plant (g)	Trimmed wt. Plant (g)	% trim loss (18")	Width/plant (mm)	Shank length/ plant (in)
4	418	336	20	33.5	5.19
2	314	246	22	27.3	5.69
1	204	154	25	22.19	6.19
LSD	56	49		4.1	.32

Seeded: 3/22/96

Transplanted: 5/30/96

Harvested: 8/30/96

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